

## An Annotated Bibliography of References to Historical Distributions of Pronghorn in Southern and Baja California

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*Abstract.*—Recent pronghorn (*Antilocapra americana*) translocations to southern California and the establishment of captive populations of endangered desert pronghorn have revived interest in the historical occurrence of pronghorn in the Californias. Adding to this interest is the recent widespread replacement of coastal sage scrub vegetation in southern California by annual grasslands more favorable to pronghorn. We have searched the scientific and popular literature, as well as museum collections, to locate pronghorn antelope occurrences from below San Francisco Bay southward through the Baja California peninsula. Our results show that pronghorn were widely distributed, and often abundant, on nearly all of the plains and valleys on both sides of the Coastal and Peninsular ranges to at least as far south as the Magdalena Plain.

Although the U.S. Geological Survey lists more than 30 “Antelope” place names in California south of Parallel 38° North,<sup>6</sup> pronghorn were extirpated from southern California prior to 1950, and the species is now endangered in Lower California (O’Gara and Yoakum 2004). Then, beginning in 1987, translocated pronghorn were reintroduced to San Luis Obispo, Kern, and Los Angeles counties in southern California (Koch and Yoakum 2002). Captive populations of the endangered *Antilocapra americana peninsularis* in Baja California Sur and *Antilocapra americana sonoriensis* in southwest Arizona have also been established with the intention of eventually restoring desert pronghorn to historic habitats. These efforts, at least some of which appear to be successful, coupled with the recent replacement of large areas of coastal sage scrub by annual grasslands more conducive to pronghorn (Weislander 1934; Minnich and Dezzani 1998) prompted us to aid in the evaluation of additional releases by documenting the historic occurrences of “antelope” and *berrendos* in southern California, Baja California and Baja California Sur.

### Methods

Contacted museums included the American Museum of Natural History in New York (AMNH), Natural History Museum in London (BMNH), California Acad-

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<sup>6</sup> One in Inyo County, 8 in Kern County, 9 in Los Angeles County, 5 in Mono County, 2 in Riverside County, 3 in San Benito County, and 3 in San Bernardino County.

emy of Sciences (CAS), Carnegie Museum of Natural History (CM), Field Museum of Natural History (FMNH), Natural History Museum of Los Angeles County (LACM), Museum of Comparative Zoology at Harvard (MCZ), Museum of Vertebrate Zoology (MVZ), San Diego Museum of Natural History (SDNHM), Universidad Autonoma de México (UNAM), U.S. National Museum (USNM), and Burke Museum of Natural History at the University of Washington (UWBM). Literature sources were sought in both the popular and scientific literature giving the approximate dates and locations of pronghorn observations in southern California and lower California prior to 1950. Publications especially helpful in this endeavor were Jim Yoakum's (1967) annotated bibliography on the species, Morris Heller's (1997) bibliography of hunting books, and Eric Mellink's (2000) biography of collector Edward Funcke. The following bibliography, while comprehensive, is not exhaustive, and other sources, especially those in Spanish and referring to the Spanish period, remain to be uncovered.

### Results

In addition to the museum specimens shown in Table 1, we have assembled the following historic references to pronghorn in the Californias south of San Francisco Bay:

**Anderson, H. T., Jr. 1932.** The pronghorn antelope. California Fish and Game 18: 258–259.

Anderson reports on recent pronghorn sightings in the Mojave Desert near Randsburg and in Antelope Valley.

**Anderson, H. T., Jr. 1934.** The pronghorn antelope in Los Angeles County, California Fish and Game 20:91–92.

A total of seven pronghorn was reported in Los Angeles County in July, 1932. By December 1933 only four does could be located in the rolling low hills of Antelope Valley. With no males present it was apparent that the county's pronghorn would soon be extirpated.

**Bolton, H. E. 1927.** Fray Juan Crespi, Missionary Explorer on the Pacific Coast, 1769–1774. University of California Press, Berkeley.

While crossing the Salinas Valley on September 27, 1769, Father Crespi reported: "*We saw in this day's march two bands of antelope some distance from us,*" and the next day, near the present site of Greenfield (Gordon 1979), "*some bands of antelope were seen but not within gunshot.*"

**Brewer, W. H. 1930.** F. Farquhar, ed. Up and Down California in 1860–1864. University of California Press, Berkeley.

Near New Idria, east of Tres Pinos, San Benito Co., while in the valley of Little Panoche Creek, Brewer reported that, "*we came on a drove of ten antelope, the first we have seen. They were very plentiful a few years ago in this state, in large flocks.*" Earlier, on June 10, 1861, Brewer reports coming upon a herd of "*thirty or forty antelope*" at Canada del Puerto in Stanislaus County, and later, on June 19, he and his party saw a herd of pronghorn in the San Joaquin Valley near San Luis (Merced Co.) 27 miles from Pacheco Pass. Brewer goes

on to report antelope in San Ramon Valley near Mount Diablo (Contra Costa Co.), Pacheco Valley (Santa Clara Co.), and between Visalia and the Kern River in Kern County.

**Bryant, E. 1848.** What I saw in California. D. Appleton and Co., New York.

Bryant reported seeing “*several large droves of antelope and deer,*” some 40 to 50 miles above the mouth of the San Joaquin River (probably near present day Tracy in San Joaquin County). He also reported that the San Joaquin Plain was furrowed with deep trails of horses, elk, deer, and antelope. Bryant considered antelope as occurring in California in “*large numbers*” with “*large flocks*” being present in the Sacramento Valley along the American River.

**Burcham, L. T. 1957.** California range land, an historico-ecological study of the range resources of California. California Department of Natural Resources, Sacramento. 261 p.

Prior to European settlement, the range lands of California were only used moderately by pronghorn, deer, and elk. Burcham provides several early accounts from journals referring to historic pronghorn distribution. “*Considered in its entirety, the native animal community had a relatively small effect on the plant cover.*” In parts of California, pronghorn were abundant and formed a mainstay of subsistence for the Indians, particularly in the San Joaquin Valley where the animals formed large herds numbering up to 2,000 to 3,000 head.

**Caton, J. D. 1877.** The antelope and deer of America. Forest and Stream Publishing Company, New York.

According to Dr. Canfield of Montera [Monterey], antelope were very abundant in the Monterey area’s coastal grasslands from the Coast Ranges down to the sea 25 years earlier [early 1850’s]. Canfield, who attempted to raise pronghorn in captivity, told Caton that “*California at this time [ca. 1876] is almost entirely deserted by them.*”

**Cheney, E. S. 1929.** California Fish and Game 15:175.

Cheney reports on the increasing numbers of pronghorn in California’s northeastern counties but makes no mention of any animals in central or southern California.

**Crosby, H. W. 2003.** Gateway to Alta California: the expedition to San Diego, 1769. Sunbelt Publications, San Diego, CA.

This book quotes Fray Juan Crespi as stating that while riding west on April 14, 1769, along the Rio San Telmo in northern Baja California: “*there are many antelopes (we saw one group of nine of them together), and many coyotes and deer.*”

At San Diego, in May, 1769, Alferes Miguel Costanso, who had recently arrived by ship, remarks that, “*There are in the land, deer, antelope, many hares, rabbits, squirrels, wild cats, and rats.*”

**Cudahy, J. 1928.** Manañaland: adventuring with camera and rifle throughout California and Mexico. Duffield Publishing Co., New York.

Contains a lengthy account and several photographs of pronghorn hunting in Baja California, principally in the Tres Pozos and San Felipe areas. A most interesting book as it indicates that pronghorn remained locally common after being protected by Mexican law in 1922.

**Dasmann, W. P. 1952.** Antelope planting investigations. Calif. Dept. Fish and Game, Sacramento, CA. 6 p.

A report to the California Fish and Game Commission on possible pronghorn translocation sites in California, Dasmann considers few if any of the remaining rangelands in suitable condition for a transplant.

**De Lewenhaupt, C. A. C. 1933.** Sport across the world. Jarrold's London.

Contains a reminiscence of an earlier hunt out of La Paz, "*towards the plateau of Timalas, after having crossed the rough slopes of San Pedro.*" Here, the author reports he and his partner killing a buck out of a little herd of antelope, which "*are now beginning to grow scarce.*"

**Eisen, Gustav. 1895.** Explorations in the Cape region of Baja California in 1894, with references to former expeditions of the California Academy of Sciences. Proc. Calif. Acad. Sci. 2<sup>nd</sup> Ser. V: 733-775.

Some of these expeditions undoubtedly reported the presence of pronghorn. Unfortunately, the fire of April 1906 destroyed all of these collections along with any museum records.

**Elliot, D. G. 1903.** A list of mammals collected by Edmund Heller in the San Pedro Martir and Hanson Laguna Mountains and the accompanying coast regions of Lower California with descriptions of apparent new species. Field Columb. Mus. Publ. 79, Zool. Ser. 3, No. 12:208.

A juvenile male pronghorn is taken near San Felipe, on the Gulf of California. The author also states that "*At rare intervals antelope have been observed at Rosarito*"; tracks were seen at San Matias Spring; and the animals "*occasionally come into the Cañon Esperanza for water from the near-lying desert.*" Writing in San Quintin, Heller writes that "*a few occurred until recently west of the bay on the north end of the peninsula west of the town. This was apparently their northern range on the Pacific coast. It is not rare on the coast south of this place.*"

Inland from the coast of San Felipe Bay, he wrote that "*a few antelope inhabit the plains near the bay, but from the number of tracks seen there are probably less than a dozen. No herds of any size occur and they are usually seen singly or in bunches of three or four. The Indians report seeing as many as fifteen occasionally in a band.*"

**Elliot, D. G. 1904.** Catalogue of mammals collected by E. Heller in southern California. Field Columbian Museum Publ. 91. Zool. Series. Vol. 3(16):284-285.

Two specimens, a male and a female, were collected in Antelope Valley near the eastern base of Tehachapi Mountains. On page 2 (Plate 41), there is a photograph of a captive female pronghorn near Fort Tejon.



Heller found a herd of 30 pronghorn in the western edge of the Mohave Desert near the eastern base of the Tehachapi Mountains in Kern County, California, the “*remnant of the hundreds that recently inhabited this arm of the desert.*” He describes the habitat as a heavy forest of “*tree-yuccas*” [Joshua trees],” which is flanked by an open adobe plain supporting a scanty growth of bunchgrass and afilleria [filaree], including the bases of the bordering hills and mountains. These animals used to winter in small, sheltered valleys among the foothills where they fawned. He says the horns are shed in early October or late in September and the animals breed in mid-summer. A female taken in the middle of October contained two embryos about 3 months old. He also knew of a herd of 7 “*on the open plains*” of the San Joaquin side of Tehachapi Pass, with another 7 or so farther west near Buena Vista Lake in Kern County and another herd on the Carrizo Plains on the western side of the San Joaquin Valley. He also stated that this species was formerly thought to move freely between the Mohave Desert and the San Joaquin Valley.

**Ely, A. (Chair). 1939.** North American big game. Boone and Crockett Club and Charles Scribner’s Sons, New York and London.

Contains a listing of the then highest scoring pronghorn trophies in the Boone and Crockett record book including a buck with 16” horns taken by E. W. Funcke in Lower California.

**Freeman, Lewis R. 1904–05.** A new sportsman’s paradise. *Western Field* 5(1904): 191–197, 269–271, 352–360; 1905:445–451. Reprinted in the *Pacific Monthly* in March 1909 in “*The Mountain Sheep of North America.*”

Reports an abundance of antelope and bighorn on the west slopes of the Sierra Pinta in northeastern Baja California.

**Fremont, John C. 1849.** Notes of travel in California. D. Appleton and Co., New York. p. 36.

Fremont’s impressions of the natural history of mid 19th Century California’s are especially interesting in that they are usually accompanied by botanical descriptions of the forbs and grasses present including California poppy, wild pea, filaree, wild oats, etc. These include the following passage describing the countryside around Tulare Lake in early January in what is now Kern County: “We traveled among multitudinous herds of elk, antelope, and wild horses. Several of the latter, which we killed for food, were found to be very fat.”

**Funcke, E. W. 1915.** The sheep hunting of Lower California. *Outdoor Life*. Sept. 221–228.

Discusses and maps the distribution of bighorn sheep, pronghorn and mule deer in northern Baja California.

**Funcke, E. W. 1919.** Hunting antelope for museum specimens. *Field and Stream*. March: 834–36.

Captain Funcke discusses his guiding and hunting expeditions for pronghorn in Baja California, often at the request of American museums. Funcke was an

accomplished hunter and a relentless collector, securing more pronghorn specimens from the region than all other collectors combined.

**Gordon, B. L. 1979.** Monterey Bay Area: natural history and cultural imprints. 2<sup>nd</sup> ed. The Boxwood Press, Pacific Grove, CA.

Citing old newspaper articles, Gordon noted that in January 1852, "*We rode along the hills in the east and northeast side of the Salinas Plains* (west base of the northern Sierra Gabilon). . . *We saw several bear and plenty of deer and antelope* (*Salinas City Index, February 15, 1877*).

And, also in Monterey County: "*older settlers can remember the time in the Hildrethe and Dunphy herding days when antelope were not uncommon on the Salinas plains from Gonzales southward*" (*MontereyDemocrat, June 30, 1888: 6*).

Gordon also cited a 1770 entry near the present site of Chular by Fr. Pedro Pages 1911:149: "*many herds of antelope; some of them exceeding fifty.*"

Gordon also cites "*Life in California,*" 1947, (Biobooks, Oakland:69), in which A. Robinson state's that there were also antelope in the upper drainage of the Pajaro River in the Santa Clara Valley (Santa Cruz County).

**Graves, J. A. 1912.** Out of doors, California and Oregon. Grafton Publ. Co., Los Angeles, CA.

In 1876 Graves and an old hunter named Chavin kill two bucks out of a large herd of pronghorn near the Liebre Ranch on Rock Creek, not far from Elizabeth Lake in Los Angeles County. This site, near where Fairmont is located, was then a grassy *ciénega*.

**Graves, J. A. 1927.** My seventy years in California: 1857–1927. Times-Mirror Press, Los Angeles.

Contains a reminiscence of Graves and his partner killing "*two fine buck antelope*" in the fall of 1876 near Rock Creek in Los Angeles County at the western end of Antelope Valley not far from Rancho Liebre. The following year, Graves and about a dozen others drove a wagon from Los Angeles to Willow Springs, west of Mohave, where they waylaid a large band of pronghorn coming to water and killed 17. Another member of the party claimed the number was 27, the party dressing the pronghorn in the willow trees near the spring. Graves also reported seeing bands of antelope from the train when travelling through Antelope Valley.

**Grinnell, J. 1933.** Review of the recent mammal fauna of California. Univ. California Publ. in Zool.40:209.

Pronghorn "*occurred westwardly at north to Shasta valley, Siskiyou County; centrally to open hills of Contra Costa County and to Salinas Valley, Monterey County; and southerly, at least to piedmont or mesa region where Pasadena is now located and to San Jacinto Valley in Riverside County. Within recent years only isolated bands exist: largest of these [of several separate bands there] in Modoc region . . .; a small band on west side of San Joaquin Valley in western*

*Fresno County* [none definitely reported later than 1928]; *a very few western arm of Mohave Desert* [Antelope Valley] *in northern Los Angeles County or southern Kern County*; *a small herd in northwestern San Bernardino County near Randsburg*; *and a few individuals on west of Colorado Desert near the Mexican line, in eastern San Diego County or western Imperial County* [Nelson 1925]”.

**Guzmán, G., Jr. 1961.** Vegetation zones of the territory of Baja California in relation to wildlife. *Trans. Desert Bighorn Council* 5:68–74.

Guzmán describes five major biotic zones for Baja California and states that pronghorn now only are found in one of these—the Vizcaíno Desert on the Pacific side of the middle of the peninsula.

**Hall, E. R., and K. R. Kelson. 1959.** *The mammals of North America*. Ronald Press, New York.

Shows distribution dots and marginal records for pronghorn in Antelope Valley, CA; west side of Colorado Desert near Mexican border in the vicinity of Campo, CA; San Jacinto Valley, CA; Salinas Valley, CA; and Contra Costa County, CA. Marginal records in Baja California are from Cañon Esperanza, San Felipe Bay, inland from Santa Rosalía Bay, south beyond Magdalena Bay, Vizcaíno Bay, and San Quintín.

**Holder, C. F. 1906.** *Life in the open. Sport with rod, gun, horse and hound in southern California*. G. Putnam’s Sons, London and Knickerbacher Press, New York.

States that pronghorn in large bands can be found near Elizabeth Lake and in Antelope Valley. Yet, in a 1902 map of pronghorn distribution in California prepared by C. H. Merriam, this species is shown as occurring only in north-eastern California and in Imperial Valley.

**Huey, L. M. 1964.** *The mammals of Baja California, Mexico*. *Trans. San Diego Soc. Nat. Hist.* 13:85–168.

The author reports having observed freshly killed pronghorn taken in 1908 and 1909 in El Valle de la Trinidad by a local big game hunter. This valley and other “high” valleys such as Valle de Rodeo west of the Sierra San Pedro Mártir appear to have been good pronghorn habitat.

Huey reports this species as having been extirpated in northern BC and predicted that the pronghorn would be extinct in BCS within 20 years. At the time of his report, the species reputedly could still be found in the desert valleys north and south of Bahía de Los Angeles on the east coast and east of Scammon’s Lagoon on the west coast of BCS.

**Humboldt, A. von. 1811.** *Essai politique sur le Royaume de la Nouvelle Espagne*. 2 vol. Paris, France.

Reports pronghorn near Monterey, CA.

**Humphrey, W. E. 1911–12.** Shooting the vanishing sheep of the desert. *Outdoor Life* 28, Dec. (6):477–487, 29, Jan. (1):3–16.

Humphrey and his wife hunt for bighorn and pronghorn in BC with E. W. Funcke in October and November 1909. He kills a buck pronghorn near Tres Pozos, BC, which was reportedly to be used in a desert display at the University of Washington [now the Burke Museum]. See Table 1.

**Jaeger, E. C. 1956.** Last stand of the pronghorn. *Desert Mag.* 19 (7):17–18.

References are provided for the last known pronghorn observations in California's Sonoran and Mojave deserts.

**Jaeger, E. C. 1957.** *The North American deserts.* Stanford University Press, Palo Alto, CA, p. 97.

States that a few pronghorn were known to roam the plains northeast of the Chocolate Mountains on the plains drained by tributaries of Arroyo Seco or Milpitas Wash prior to 1941 when this area was withdrawn for use by the U.S. Navy.

**Jaeger, E. C. 1961.** *Desert wildlife.* Stanford University Press, Palo Alto, CA. p. 56.

Repeats the accusation that the U.S. military was responsible for the extirpation of pronghorn in the Colorado and Mojave deserts of California during WWII.

**Jones, F. L. 1954.** Report on resurvey of proposed antelope planting sites. California Department of Fish and Game, Sacramento. 13 p.

A resurvey of the 16 potential translocation sites reported by Dasmann (1952) showed only two to be suitable due to insufficient forage and water. The report also stated that good release sites for desert pronghorn might also be available, but that there was insufficient knowledge of the forage and water requirements of "Sonoran" pronghorn.

**Kent, W. 1929.** *Reminiscences of outdoor life.* A. M. Robertson, San Francisco, CA.

This account is most valuable for its description of E. W. Funcke's background as a sea otter hunter off of the coast of BC prior to his marrying a Mexican woman and taking up big game guiding as a profession. Funcke guides Kent, accompanied by Stewart Edward White and Samuel H. Adams, into the desert ranges of northeastern BC where "*scattered*" bands of antelope are said to occur and where they kill 60 to 70 bighorn in a little over two weeks time.

**Kidwell, Art. 1996.** Bill McHaney: he found and lost a gold mine. *Hi-Desert Mag.* Summer: 11.

Anecdotal statement by McHaney that when he first arrived in a high valley within today's Joshua Tree National Park in 1879 that the "valley was full of antelope" and the area's lush grass was "belly-high on a horse."

**Koch, A. J., and J. D. Yoakum. 2002.** Reintroduction and status of pronghorn on the Carrizo Plain National Monument and surrounding areas in southern California. *Proceedings of biennial pronghorn workshop* 20:25–41.

Documents the introductions and status of pronghorn in the Carrizo Plain, Fort



Table 1. Pronghorn Antelope from Southern California and Baja California in Natural History Museum Collections.

Institution	Spec. #	Sex	dd/mm/year	Collector	Location	Notes
AMNH	77941	M	March, 1917	R. C. Murphy?	Tres Pozos, BC	Possibly 1 of 8 pronghorn collected in 1917 for Brooklyn Museum E. W. Funcke and party
ABDSP						
ABDSP						
CAS	4140	?	10-May-1905		Borrego Badlands, San Diego Co.	Partial jaw
FMNH	13105	M	3-Aug-1922	G. D. Hanna & F. Tose	Split Mtn./Fish Creek, San Diego Co.	Skull cap and partial horn
FMNH	21756	M	25-Mar-1902	Edmund Heller	Punta Abrojos, BCS	Skin and skull
FMNH	21755	F	16-Oct-1903	Edmund Heller	San Felipe, BC	Skin and skull
MCZ	65	M	16-Oct-1903	Edmund Heller	Neenach, Los Angeles Co. CA	Skin and skull
			26-Mar-1905		Neenach, Los Angeles Co. CA	Plus 4 other males and several females collected by E. W. Funcke near Calmalli, BCS
MVZ	31156	M	28-Mar-1920	Joseph S. Dixon	10 mi. w of Mendota, Fresno Co.	Fawn
MVZ	31157	F	28-Mar-1920	Joseph S. Dixon	10 mi. w of Mendota, Fresno Co.	Doe
MVZ	37932	?	10-Dec-1926	Ches. C. Lamb	Valle Trinidad, BC	
MVZ	50239	M	19-Jul-1931	Ches. C. Lamb	Chapala, BC	
MVZ	50240	?	8-Mar-1931	Ches. C. Lamb	Chapala, BC	
MVZ	19175	M	22-Aug-1912	E. W. Funcke	60 mi. s of Calmalli, BCS	300' elev.
MVZ	19176	F	19-Aug-1912	E. W. Funcke	60 mi. s of Calmalli, BCS	
UNAM	3874	?	April, 1984	Villa-R., B.	Cruce de Letreros, Vizcaino desert	
USNM	203132	M	16-Jan-1914	E. W. Funcke	5 mi. s Caparote, BC	
USNM	203133	M	16-Jan-1914	E. W. Funcke	5 mi. s Caparote, BC	
USNM	203143	M	8-Jan-1914	E. W. Funcke	8 mi. s Tres Pozos, BC	
USNM	203144	F	8-Jan-1914	E. W. Funcke	8 mi. s Tres Pozos, BC	
USNM	203145	F	16-Jan-1914	E. W. Funcke	7 mi. n Tres Pozos, BC	
USNM	203179	M	24-Feb-1914	E. W. Funcke	6 mi. n Tres Pozos, BC	
USNM	178392	M	13-Sep-1911	E. W. Funcke	2.5 mi. w Calmalli, BCS	
USNM	178393	F	1-Sep-1911	E. W. Funcke	2.5 mi. w Calmalli, BCS	
USNM	178394	F	1-Sep-1911	E. W. Funcke	2.5 mi. w Calmalli, BCS	
USNM	178395	M	1-Dec-1911	E. W. Funcke	ca. Calmalli, BCS	
USNM	178443	M	16-Mar-1916	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	178444	F	2-Dec-1911	E. W. Funcke	ca. Calmalli, BCS	

Table 1. Continued.

Institution	Spec. #	Sex	dd/mm/year	Collector	Location	Notes
USNM	178445	M	4-Feb-1912	E. W. Funcke	45 mi. s Calmalli, BCS	
USNM	178446	M	5-Feb-1912	E. W. Funcke	ca. Calmalli, BCS	
USNM	178447	F	5-Feb-1912	E. W. Funcke	ca. Calmalli, BCS	
USNM	178448	M	15-Feb-1912	E. W. Funcke	ca. Calmalli, BCS	
USNM	178449	M	16-Feb-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	178450	F	16-Feb-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	178451	M	18-Feb-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	179665	M	4-May-1912	E. W. Funcke	45 mi. w Calmalli, BCS	
USNM	179666	M	18-May-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	179667	F	8-Jun-1912	E. W. Funcke	45 mi. s Calmalli, BCS	
USNM	179668	M	8-Jun-1912	E. W. Funcke	45 mi. s Calmalli, BCS	
USNM	179669	M	3-Jun-1912	E. W. Funcke	45 mi. s Calmalli, BCS	
USNM	179670	M	20-May-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	179671	M	19-May-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	179672	M	4-May-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	179673	F	20-May-1912	E. W. Funcke	50 mi. s Calmalli, BCS	
USNM	179674	F	16-Feb-1912	E. W. Funcke	30 mi. s Calmalli, BCS	
USNM	A0003	M		J. Xantus	Ca. Fort Tejon, CA	Skull only
USNM	534	M	Nov, 1911	D. J. Singer	Calexico, CA	Skull only; from Tres Pozos?
UWBM	218001	M	23-Mar-1905	W. E. Humphrey	Tres Pozos, BC	

Abbreviations: AMNH = American Museum of Natural History; BMNH = British Museum of Natural History; CAS = California Academy of Sciences; USNM = National Museum of Natural History; MVZ = Museum of Vertebrate Zoology, UC Berkeley; MCZ = Museum of Comparative Zoology, Harvard; FMNH = Field Museum of Natural History, Chicago; UWBM = Burke Museum, Univ. of Washington; UNAM = Universidad Autonoma de Mexico, Mexico City; ABDSP = Anza-Borrego Desert State Park, Borrego Springs, CA; BC = Baja California; BCS = Baja California Sur.

Tejon Ranch, Cholame Valley and other southern California locations as a result of transplants from northeastern California between 1985 and 1990.

**Larsen, H. (Mrs.) 1929.** The antelope near Fresno. *California Fish and Game* 15(4): 350–351.

Mrs. Larsen describes how she came to Fresno County in 1878 as a homesteader and how in 1879 bands of 40–50 antelope were feeding on the settler's new alfalfa crops. The pronghorn diminished with settlement although she and her son later saw herds near Firebaugh and in the more open reaches of the Coast Range. One of the last herds was a population of about 50 near the mouth of Salt Creek near Panoche Pass in the "*Joaquin Murrieta country*."

**Leopold, A. S. 1959.** *Wildlife of Mexico: the game birds and mammals*. University of California Press, Berkeley, Los Angeles and London.

Leopold reported that a S. B. Benson found scattered bands of pronghorn in northwestern Sonora and in northeastern Baja California near San Felipe on various trips between 1936 and 1948. He also stated that Raymond Gilmore had been told in July 1956 that bands of up to 30 pronghorn were often seen on the Vizcaíno plain east of Black Warrior Lagoon in July, 1956 and that hunters still pursued them.

**McLean, D. D. 1944.** The prong-horned antelope in California. *California Fish and Game* 30:221–239.

Although focusing on the Modoc Plateau in northeast California, McLean maps the historical occurrence of pronghorn in California as all of the plains, valleys and deserts including the valleys west of the Coast Ranges to as far north as Sonoma County.

**Mearns, E. A. 1907.** *Mammals of the Mexican Boundary Survey of the United States*. U.S. National Mus. Bull. 56, Part I. Washington, D.C.

Mearns states that some antelope, though not abundant, remained on the Colorado Desert in both Californias. He saw their tracks near Gardner's and Laguna stations along the border, and records having seen a specimen taken by A. W. Anthony; west of the Coast Range in Lower California.

**Meyers, L. H. 1963.** A general history of the pronghorn antelope in California. *Intern. Antelope Conference Trans.* 14:81–102.

Meyers provides a literature review of California pronghorn with some 60 references being listed.

**Monson, G. 1968.** The desert pronghorn. *Trans. Desert Bighorn Council* 12:63–69.

Monson discusses the former distributions of the "Sonoran" and "Peninsular" pronghorn and proposes that they be referred to as "desert pronghorn."

**Murphy, Robert Cushman. 1917.** The desert life group, and an account of the museum expedition into Lower California. *Brooklyn Museum Quarterly* V (=IV), No. 4:179–210.

**Murphy, Robert Cushman. 1917.** Natural history observations from the Mexican portion of the Colorado Desert with a note on the Lower Californian pronghorn and a list of the birds. Proc. Linnean Soc. New York 29:43–101.

In the above accounts, Murphy, accompanied by Robert Rodwell (chief taxidermist) and Edward W. Funcke of San Ysidro, CA, embark on a pronghorn expedition to Tres Pozos and the Pattie Basin of BC in 1915. On April 7 he reported that the “*heart-shaped tracks of antelopes were visible everywhere, but were mostly old.*” Later that day he saw a lone buck and then a herd of 7 or 8 in the Pattie Basin just north of San Felipe, none of which was secured. Nine more pronghorn were seen on April 3, and on April 4 a fawn was killed 7 miles from Tres Pozos. Two more “*half-grown*” pronghorn were killed toward Caparote by Funcke on April 7. On his return, the party frightened a small band in a pass cutting through the Tinajas Mountains on April 11.

He returned with Mrs. Murphy on April 23 during which time more pronghorn were observed and at least 1 killed, none of which are presently in the Brooklyn Museum of Art and Culture. Murphy considered the pronghorn in Pattie Basin much reduced in numbers as he only saw 50-60 animals, mostly in singles, in 11 days. All were extremely wild. Based on the size of the fawns observed and collected, he and Funcke estimated the birthing time to be in late February. Major spring foods were desert broom-rape and trailing four-o'clock, with ironwood taken at other times.

Later, between March 16 and 25, 1917, Funcke sent 8 pronghorn from the Tres Pozos area to the Brooklyn Museum.

**Nelson, E. W. 1912.** A new subspecies of pronghorn antelope from Lower California. Proc. Biol. Soc. Washington 25:107–108.

Nelson describes the type specimen of *Antilocapra americana peninsularis* taken near Calmalli by E. W. Funcke.

**Nelson, E. W. 1922 (1966).** Lower California and its natural resources. National Acad. Sci. 61:1–194. 1<sup>st</sup> Memoir.

“*Antelopes, once so numerous on the open plains of the peninsula, have become exterminated over considerable areas. None appear to be left in the north-western part of the peninsula west of the mountains, and north of El Rosario. They are also gone from the great Magdalena Plain [south of where Nelson: 64 said they once occurred]. Small numbers still exist on the desert south of the Cocopah Mountains and back of San Felipe Bay, as well as in various other localities, thence south to the Vizcaíno Desert, where they are still more numerous than elsewhere. It is evident, however, that these animals are fated to disappear from this region in the not distant future.*”

**Nelson, E. W. 1925.** Status of the pronghorned antelope, 1922–1924. USDA Bull. 1346:1–64.

In his statewide compilation, Nelson reported a census of 1070 pronghorn in California. Most of these animals (980) were in the northeastern part of the state, but a herd of about 30 was also reported as being present in 1922 between Granite Wells and Randsburg in the Mohave Desert, with another band of 11



in Antelope Valley along the Kern-Los Angeles County line. He also reported, but did not map, a band of 13 as having been seen in 1924 between Willow Springs and Liebre Ranch on the west side of Antelope Valley in Kern County. Two bands totaling 29 head were also reported from the San Joaquin Valley between Mendota and Panache Creeks in Fresno County. Another small band of 5 animals was also reported as occurring in 1922 on the “*Colorado Desert*” along the Imperial–San Diego County border near Campo.

Nelson’s informants estimated about 200 pronghorn on the east side of BC from the California border to the boundary of what is now BCS. Another 100 to 300 animals were thought to be in the Vizcaíno Desert in BCS between Vizcaíno and Ballenas bays.

**Newberry, J. S., M.D. 1855.** Report upon the zoology of the route. No. 2, Chap. 1, pp. 70–71 *In* H. L. Abbot. 1857. Reports of explorations and surveys to ascertain. . . etc. U.S. Senate ex. Doc. No 78, Vol. 7, Washington D.C.

Page 71: “*Though found in nearly all parts of the territory of the United States west of the Mississippi, it [Antilocapra Americana] is probably most numerous in the valley of the San Joaquin, California. There it is found in herds literally of thousands; and though it is much reduced in numbers by the war which is incessantly and remorselessly waged upon it, it is still so common that its flesh is cheaper and more abundant in the markets of the Californian cities than that of any other animal. On nearly every day’s march between the valley of the Sacramento and the Columbia, we saw either the antelope itself or its peculiar track in the sand.*”

“*In the Sacramento Valley they have become rare, and the few still remaining are excessively wild.*”

**North, A. W. 1907.** Hunting the bighorn. *Sunset Magazine*. Oct.:523–532.

**North, A. W. 1910.** *Camp and camino in Lower California*. Baker and Taylor Co. New York.

North was in Baja California from December 1905 until May 1906, and then again, from July through September 1906. He hunted both bighorn and pronghorn in what is now BC and BCS.

P. 106: “*South of Youbai we crossed the tapering of two level valleys extending down towards the Gulf and containing several thousand acres with grass and brush. According to Otero a few antelope ranged in this section. . . Like the Llanos de Buenos Ayres and the Llanos de Santa Maria, which are also inhabited by small bands of antelope—this region is barren of springs.*”

P. 144: “*Presently, leaving the rolling hills behind, we entered upon the Llanos de Ojo Liebre, or Plains of a Hare’s Eye, sometimes also called Antelope Plains, an immense barren, expanse, bordered by the San Pablo Sierras on the east, the Santa Clara Sierras on the south and a low horizon on the west. With its numerous curving swales and rounded sand hills, the vast field covered with waving grasses, bobbing wild flowers and small, fretful leguminous plants, spread out before us like some billowy sea.*

*Soon I saw my first prong-horn or antelope. . .*

*Early in the afternoon we came upon three antelope, though I, personally, saw*

*only one, a fine prong-horn buck.*” North goes on to describe killing his first pronghorn, a buck, near the Calmalli-San Ignacio road while en route to San Angel. Four days later they arrive at San Ignacio having crossed the peninsula from Pozo de Ojo Liebre.

**North, Oliver (Mullen, W.) 1876.** Rambles after Sport or Travels and adventures in the Americas and at home. The Field Office, London.

An Englishman’s account of hunting in the Californias in the 1860s. He reports pronghorn as then being fairly common in the Ensenada area.

**O’Gara, B. W., and J. D. Yoakum. 2004.** Pronghorn: ecology and management. Wildlife Management Institute and Univ. Colorado Press.

On page 547 there is a photo, *ca.* 1920, of one of the last pronghorn killed in the San Joaquin Valley. Restoration attempts in the Carrizo Plains and other California locales are also summarized.

**Paez, J. 1542–1543.** Cabrillo’s Log. trans. J. R. Moriarty and M. Keistman. The Western Explorer, vol V, no. 2 and 3, Cabrillo Historical Association. San Diego, CA, September 1968.

In September 1542, Cabrillo reported seeing “*herds of animals like domestic animals which were in the number of a hundred or more*” on the grassy savannas at Ensenada, Baja California. His further descriptions of the animals could only refer to pronghorn.

**Phillips, J. C. 1913.** The Lower California pronghorn antelope. *Science*, May 9: 717–718.

Phillips describes the Museum of Comparative Zoology’s (Harvard) recent acquisition of 5 male and several female pronghorn collected by E. W. Funcke in the Calmalli area of BCS. He notes that one of the males, #65 in the MCZ collection, has horns  $16\frac{1}{4} \times 6\frac{1}{4}$ ” long and is the 5<sup>th</sup> largest specimen in the 6<sup>th</sup> edition of Rowland Ward’s record book.

**Priestly, H. I. 1937.** A historical, political, and natural description of California by Pedro Fages, soldier of Spain. Univ. of California Press, Berkeley. 83 pp.

In 1769, while Fages was traveling with the Portola expedition through the San Diego area, he reports observing “*deer, antelope, conies, hares without number, wildcats, wolves, some bears, coyotes and squirrels of three kinds.*”

**Singer, Dan. J. 1916?** Desert trails. *Field and Stream*. Sept. 413–416, Oct. 503–506, Nov. 588–590, Dec. 678–681.

Not seen. This article may describe a hunt with E. W. Funcke and the collecting of Singer’s pronghorn in the U.S. National Museum (Table 1).

**Slade, C. B. 1902.** Hunting sheep and antelope in Lower California. *Outing* 39 (Feb):505–512.

Slade kills a buck pronghorn out of a group of 3 on Mesa Huatamote (due east of El Rosario) between the “*Stone Corral*” near San Juan de Dios (Espinosa’s Ranch) and La Tinaja. The antelope was near a dead juniper and on a high

mesa 25 miles north of the "Plains of San Agustine" (Llanos San Agustin) 20 miles from the coast. His party had left from San Quintín.

**Stephens, F. 1906.** California mammals. West Coast Publishing Co., San Diego, CA.

*"In 1877 I saw a band of about 2 dozen where Perris, Riverside County, now stands, and the next year I saw one within the limits of what is now the city of Riverside. At this writing they are almost exterminated in this State. There are a very few in Modoc, Lassen and Mono Counties, and a small band or two in the deserts in the southeastern part of the State. All told there may be two or three hundred left and this number is steadily diminishing."*

**Stephens, F. 1921.** An annotated list of the mammals of San Diego County, California. Trans. San Diego Soc. Nat. History 3:41–56.

Stephens reports the presence of four pronghorn at Carrizo Creek in the Anza Borrego Desert "many years ago."

**Tinker, B. 1978.** Mexican Wilderness and Wildlife. Univ. Texas Press: Austin, TX.

Tinker, who collected several pronghorn in Sonora and Baja California, provides a description and account of an animal bagged in BC, giving its weight and measurements. Tinker's reports are unreliable, however.

**Townsend, C. H. 1912.** Mammals collected by the Albatross Expedition in Lower California in 1911, with descriptions of new species. Bull. Amer. Mus. Nat. Hist. 31:119.

Townsend collects a pronghorn inland from San Felipe for the Field Museum in Chicago.

**Van Dyke, T. S. 1888.** The city and county of San Diego. The Pacific Press, Oakland and San Francisco.

**Van Dyke, T. S. 1905.** Sport on the Lower Colorado. Western Field 6:3–7.

Van Dyke reports pronghorn in El Cajon and Otay Mesa in San Diego County, the last one being killed in 1883.

**Van Norden, O. H. 1919.** Hunting in Laguna Salada. Outing 74:209–213, 260, 280–284, 316–317, 349–353, 380, 386.

More pronghorn hunting accounts in northeastern BC with the indomitable Captain Funcke.

**Zwinger, A. 1986.** John Xántus: the Fort Tejon letters, 1857–1859. University of Arizona Press, Tucson.

Xantus, while stationed at Fort Tejon in Kern County, California, reported seeing large herds of pronghorn from Tejon Peak in October 1857. A skull at the U.S. National Museum is attributed to him.

#### Discussion

The published accounts and associated specimens provide a fairly complete picture of pronghorn distribution in the Californias. The central valley of Cali-

ifornia was a population center prior to the valley being settled by farmers and the pronghorn undergoing pervasive and sustained hunting pressure. Pronghorn in both Californias ranged all the way to the coast at Monterey in the north southward to at least Magdalena Bay in Baja California Sur. Pronghorn also appear to have been fairly regularly distributed along mesas and valleys from coastal southern California, including the Riverside–Perris plain in western Riverside County and the coastal mesas in San Diego County. Along the Lower California peninsula, pronghorn ranged southward along both coasts to below San Felipe on the Gulf of California, and on the Pacific coast to at least Bahia San Ignacio, with records from Ensenada, San Telmo, San Quintin and El Rosario, as well as such high mountain valleys as near Campo (just north of the border) and Valle Trinidad. In the central portion of the peninsula there are specimens from Laguna Chapala in the Valle de los Cirios, with a large series collected about 50 miles south of Calmalli, southwest of the modern town of Vizcaíno. This is the site containing most of the remaining pronghorn population today. East of the Coast Ranges, pronghorn appear to have been abundant in the western Mojave desert and adjacent foothills, with lesser numbers found in the rest of desert southern California with the eastern base of the peninsular ranges in Baja California being a regular hunting locale in the early part of the 20<sup>th</sup> century. Here, undoubtedly due to its later settlement, the San Felipe desert sustained a large pronghorn population even after the species disappeared from most other Sonoran Desert locales in the U.S. The southern extent of the species range appeared to be in the Magdalena plain, although actual records there are vague, and any population in southern BCS must have been small.

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